

- Fig. 8. *Moorea silurica*, sp. nov.; from the Upper Ludlow beds, Hales End, Malvern: *a*, right valve; *b*, ventral view.
 Fig. 9. *Kirkbya fibula*, sp. nov.; from the Upper Ludlow beds, Hales End, Malvern: *a*, right valve; *b*, ventral view.
 Fig. 10. *Primitia excavata*, sp. nov.; from the Woolhope Limestone, near Malvern: *a*, left valve; *b*, ventral view; *c*, portion of the depressed area and of its border, highly magnified.

XXXI.—On the Species of Veneridæ found in Japan.

By ARTHUR ADAMS, F.L.S. &c.

MY list of the Japanese species of the *Venus* tribe is a tolerably long one; but only a few unrecorded species were met with, Reeve and Sowerby both being occupied with seeking out and describing every member, however obscure, of this beautiful family just on my arrival in England. *Meretrix lusoria* and its varieties form a favourite article of diet among the poorer classes of Japan; they call it “Famaguri Hamongudi;” and great heaps of the shells are often found near their houses. It affords them also amusement. From the thousands of odd valves they select numerous pairs which are both marked with a similar pattern, and, sitting round in a circle on their mats, one throws a number of shells down promiscuously; and the object of the simple game is to select pairs of similarly marked valves quicker than any one else!

The habitat of *Chione cardioides*, in the British Museum Catalogue by M. Deshayes, is “Mare Antillarum,” and that of *C. histrionica* “America centralis;” but these may be errors.

Fam. Veneridæ.

Subfam. VENERINÆ.

Genus VENUS, Linn.

- 1.
- Venus lamellaris*
- , Schum., Rve. Conch. Syst. pl. 68. f. 4.

V. cancellata, Chemn. (non Lam.).*V. reticulata*, var., Lam.*V. subrostrata*, Gray.*Dosina Lamarchii*, Gray.*Hab.* Seto-Uchi, Kuro-Sima.

- 2.
- Venus toreuma*
- , Gld. Exp. Shells, 1850, p. 84; Sow. Thes. Conch. pl. 161. f. 187-189.

V. crebrisulca, Sow. (non Lam.).*V. Jukesii*, Desh. Cat. Conch. Brit. Mus. 1853.*Hab.* Gotto Islands, 48 fathoms; Satanomosaki, 55 fms.

Genus MERCENARIA, Schum.

Mercenaria Stimpsoni, Gld. Otia Conch. p. 169.

Hab. Hakodadi Bay.

Genus GEMMA, Desh.

Gemma gemma, Totten (*Venus*), Gld. Rep. Inv. Mass. p. 88, f. 51.

Hab. Aniwa Bay, 17 fathoms.

Genus CRYPTOGRAMMA, Mörch.

Cryptogramma squamosa, Linn. (*Venus*), Sow. Thes. Conch. pl. 156. f. 83, 84.

Hab. Cape Nomo, Kiusu.

Genus CHIONE, Megerle.

1. *Chione marica*, Linn., Sow. Thes. Conch. pl. 157. f. 107-110.

Hab. Tsus-Sima, 26 fathoms; Mososeki, 7 fms.

2. *Chione crenifera*, Sow. (*Venus*), Wood, Suppl. (Hanl.) pl. 16. f. 30.

Venus Portesiana, D'Orb.

Hab. Seto-Uchi.

3. *Chione intersecta*, Sow. (*Venus*).

Hab. Seto-Uchi.

Subgen. *Chamelea*, Klein.

4. *Chione (Chamelea) japonica*, Gmel., Hanl. Wood's Suppl. pl. 13. f. 46.

Venus literata, Chemn. (non Linn.).

Hab. Japan (teste auct.).

Subgen. *Circomphalus*, Klein.

5. *Chione (Circomphalus) Isabellina*, Phil. (*Venus*), Abbild. & Beschr. p. 39, pl. 10. f. 5.

Hab. Kuro-Sima.

6. *Chione (Circomphalus) lamellata*, Lam. (*Venus*), Sow. Thes. Conch. pl. 160. f. 176.

Hab. Satanomosaki.

7. *Chione (Circomphalus) tiara*, Dillw. (*Venus*), Sow. Thes. Conch. pl. 158. f. 125, 126.

Hab. Kino-O-Sima, Kuro-Sima.

Subgen. *Timoclea*, Leach.

8. *Chione* (*Timoclea*) *cardioides*, Lam. (*Venus*), Sow. Thes. Conch. pl. 155. f. 57, 58.

V. asperrima, Sow.

Cytherea cardilla, Lam.

Hab. Kino-O-Sima.

9. *Chione* (*Timoclea*) *histrionica*, Brod. & Sow. (*Venus*), Sow. Thes. Conch. pl. 55. f. 52.

Hab. Hakodadi.

Genus MERETRIX, Lam.

1. *Meretrix lusoria*, Rumph., Sow. Thes. Conch. pl. 128. f. 40-42.

V. lusoria japonica, Chemn.

Cytherea lusoria, Lam.

Meretrix formosa, Sow.

In Japanese, "Famaguri Hamongudi."

Hab. Hakodadi, Yokohama, Simoda.

2. *Meretrix morphina*, Lam., Sow. Thes. Conch. pl. 129. f. 59, 60.

Cytherea morphina, Lam.

Hab. Nagasaki, Simoda, Yokohama.

3. *Meretrix zonaria*, Lam., Sow. Thes. Conch. pl. 129. f. 53, 54.

Hab. Hakodadi, Simoda, Nagasaki.

These three so-called species I believe to consist of one, with which *C. castanea* and *C. Lamarckii* may be united.

Genus TIVELA, Link.

- Tivela damaoides*, Gray (*Venus*), Sow. Thes. Conch. pl. 127. f. 7-9.

Trigona damaoides, Gray.

Cytherea ponderosa, Hañl.

Hab. Kino-O-Sima. Eaten by the poorer classes.

Genus CALLISTA, Poli.

1. *Callista festiva*, Sow. (*Cytherea*), Thes. Conch. pl. 130. f. 72.

Hab. Kuro-Sima.

2. *Callista inflata*, Sow. (*Cytherea*), Thes. Conch. pl. 133. f. 127, 128.

Hab. Tsusaki, Mososeki.

3. *Callista tellinæformis*, Phil. (*Venus*), Abbild. pl. 9. f. 1.
Cytherea tellinoidea, Sow.
Hab. Japan (Phil.). I did not meet with this species.

Genus SUNETTA, Link.

1. *Sunetta excavata*, Hanl. (*Cytherea*), Wood, Descrip. Cat. Suppl. pl. 15. f. 19.
Cuneus excavatus, Desh.
Meroë excavata, Sow. Thes. Conch. pl. 126. f. 13, 14.
Hab. Satanomosaki, 55 fathoms.
2. *Sunetta subquadrata*, Sow. (*Meroë*), Thes. Conch. pl. 126. f. 9.
Cuneus subquadratus, Desh.
Hab. Fat-si-jeu Islands, 25 fathoms.
3. *Sunetta menstrualis*, Mke. (*Cytherea*), Phil. Abbild. pl. 3. f. 3.
Meroë magnifica, Rve.
Hab. Kuro-Sima.

Genus CIRCE, Schum.

1. *Circe scripta*, Linn. (*Venus*), Wood, Ind. Test. pl. 8. f. 97.
Chama literata, Chemn.
Cytherea undatina, Lam.
Hab. Simidsu, Tsus-Sima.
2. *Circe divaricata*, Chemn. (*Venus*), Sow. Thes. pl. 137. f. 8, 9.
Cytherea testudinalis, Lam.
Venus discors, Schröt.
Cytherea æquivoca, Sow. (non Chemn.).
Chamæformis percites, Meusch.
Hab. Tanabe.
3. *Circe dispar*, Chemn. (*Venus*), Sow. Thes. Conch. pl. 137. f. 10, 11.
Cytherea muscaria, Lam.
C. pulicaris, Lam.
C. mixta, Lam.
Hab. Tago, Kino-O-Sima.
4. *Circe æquivoca*, Chemn. (*Venus*) Conch. pl. 202. f. 1980.
Cytherea plaunella, Lam.
Hab. Simidsu.
5. *Circe nummulina*, Lam. (*Cytherea*), Sow. Thes. Conch. pl. 138. f. 27.
Hab. Mososeki.

6. *Circe gibbia*, Lam. (*Cytherea*), Sow. Thes. Conch. pl. 137.
f. 4-7.

Cytherea ranella, Lam.

Circe calata?, var.

Hab. Kino-O-Sima.

Subgen. *Lioconcha*, Mörch.

7. *Circe* (*Lioconcha*) *ornata*, Dillw., Sow. Thes. Conch. p. 642.

Pectunculus reticulatus, List.

Cytherea picta, Lam.

Hab. Tatiyama, Takano-Sima.

Subfam. *DOSINIINÆ*.

Genus *DOSINIA*, Scopoli.

1. *Dosinia japonica*, Rve. (*Artemis*), Conch. Icon. pl. 3. f. 7.

Hab. Hakodadi.

2. *Dosinia biscocta*, Rve. (*Artemis*), Conch. Icon. pl. 9. f. 55.

Hab. Seto-Uchi, Mososeki.

3. *Dosinia Gruneri*, Phil. (*Artemis*), Zeitschr. für Malak.
1848, p. 132. no. 63.

Hab. Tsus-Sima.

4. *Dosinia aspera*, Rve. (*Artemis*), Conch. Icon. pl. 9. f. 49.

Hab. Gotto Islands, 48 fathoms.

5. *Dosinia scabra*, Phil. (*Artemis*), Zeitschr. für Malak. 1849,
p. 19. no. 81.

Hab. Mino-Sima.

6. *Dosinia laminata*, Rve. (*Artemis*), Conch. Icon. pl. 7. f. 41.

Hab. Tatiyama, Takano-Sima.

7. *Dosinia rostrata*, Chemn. (*Venus*), Rve. Conch. Icon. pl. 7.
f. 39.

Artemis Sieboldii, Rve.

Hab. Hakodadi.

8. *Dosinia bilunulata*, Hanl. (*Artemis*), Desc. Cat. p. 106;
Wood, Suppl. pl. 9. f. 44.

Hab. Japan. I did not find this species.

9. *Dosinia sericea*, Rve. (*Artemis*), Conch. Icon. pl. 8. f. 36.

Hab. Seto-Uchi.

10. *Dosinia penicillata*, Rve. (*Artemis*), Conch. Icon. pl. 6. f. 32.
Hab. Tsus-Sima, Oki Islands.
11. *Dosinia Traillii*, A. Ad. Proc. Zool. Soc.
Hab. Yokohama.
12. *Dosinia isocardia*, Dkr. (*Artemis*), Phil. Abbild. Conch.
 Cyth. pl. 8. f. 5; Rve. Conch. Icon. *Artemis*, pl. 1. f. 1.
Hab. Tatiyama.
13. *Dosinia lirata*, Sow. (*Artemis*), Thes. Conch.
Hab. Gotto, 48 fathoms.

14. *Dosinia gibba*, A. Ad.

D. testa orbiculari, cordata, tumida, lutescenti-albida, solida, concentric costellata, costellis subdistantibus, in fasciculos dispositis, ad umbonibus subtilissime striata; area ligamenti simplici, lunula perampla, cordata, superficiali.

Hab. Tatiyama.

A species more tumid than any described, with the exception of *D. isocardia*. The concentric ribs are rounded and collected together in bundles, and the lunule is conspicuous, superficial, and narrowly heart-shaped.

Genus CYCLINA, Desh.

1. *Cyclina chinensis*, Chemn. (*Venus*), Conch. Cab. pl. 171.
 f. 1663.
Venus sinensis, Gm.
Cyprina tenuistria, Lam.
Artemis sinensis, Rve.
Hab. Tsus-Sima.
2. *Cyclina orientalis*, Sow. (*Artemis*), Thes. Conch. pl. 144.
 f. 79.
C. pectunculus, Roem.
Hab. Tsaulian, Tsus-Sima.
3. *Cyclina flavida*, Desh. Cat. Conchif. Brit. Mus. p. 31.
C. bombycina, Roem.
Hab. Tsus-Sima.

Subfam. TAPESINÆ.

Genus TAPES, Schum.

1. *Tapes exarata*, Phil. (*Pullastra*), Abbild. Conch. pl. 5. f. 6;
 Sow. Thes. Conch. pl. 145. f. 18.
Hab. Kuro-Sima.

2. *Tapes amabilis*, Phil. (*Pullastra*), Zeitschr. für Malak. 1847, p. 90; Sow. Thes. Conch. pl. 145. f. 11.
Hab. Tago.
3. *Tapes undulata*, Born (*Venus*), Test. Mus. p. 67.
Venus rimosa, Phil.
Tapes ramosa, Sow. Thes. Conch. pl. 146. f. 29.
Hab. Tatiyama.
4. *Tapes vernicosa*, Gould (*Pullastra*), Otia Conch. p. 168.
Hab. Hakodadi, Tatiyama, Tsusaki.

Subgen. *Cuneus*, Da Costa.

5. *Tapes (Cuneus) japonica*, Desh. Cat. Conchif. Mus. Brit. p. 181.
Hab. Cape Notoro, Cape Tofuts, Saghalien.
6. *Tapes (Cuneus) philippinarum*, Ad. & Rve. (*Venus*), Zool. Voy. Sam. Moll. pl. 22. f. 10.
Hab. Hakodadi, Olga Bay, Rifunsiri Island.
7. *Tapes (Cuneus) variegata*, Sow. Thes. Conch. pl. 151. f. 133-138.
Hab. Nagasaki, Oki Islands, Tsus-Sima.
8. *Tapes (Cuneus) indica*, Sow. Thes. Conch. pl. 151. f. 146, 147.
Hab. Seto-Uchi.
9. *Tapes (Cuneus) Bruguieri*, Hanl. (*Venus*), Wood, Ind. Suppl. pl. 15. f. 59.
Hab. Kino-O-Sima.

Genus *SAXIDOMUS*, Conrad.

1. *Saxidomus purpuratus*, Sow. (*Tapes*), Thes. Conch. pl. 150. f. 124.
Hab. Seto-Uchi, Mososeki.
2. *Saxidomus aratus*, Gld. Otia Conch. p. 168.
Hab. Hakodadi.

Genus *RUPELLARIA*, Fleur. de Bellev.

1. *Rupellaria exotica*, Lam. (*Venerupis*), Wood, Ind. Suppl. pl. 9. f. 29.
Hab. Tsus-Sima, Kuro-Sima.

2. *Rupellaria carditoides* (*Venerupis*), Deless. Rec. de Coq. pl. 5. f. 3.
Pullastra carditoides, Catlow.
Hab. Tsus-Sima (in oyster-shells), Oki Islands.
3. *Rupellaria macrophylla*, Desh. (*Venerupis*), Cat. Conchif. Brit. Mus. p. 193.
Hab. Kuro-Sima.
4. *Rupellaria monstrosa*, Chemn. (*Venus*), Conch. pl. 42. f. 445, 446.
Hab. Tsus-Sima (in slate-stone), Kino-O-Sima (in Madre-pores).

Genus CLEMENTIA, Gray.

1. *Clementia? similis*, Sow. Thes. Conch. pl. 151. f. 154.
Hab. Tatiyama.
2. *Clementia moretonensis*, Desh. Proc. Zool. Soc. 1853, p. 18.
Hab. Kino-O-Sima.

Genus TRAPEZIUM, Megerle.

1. *Trapezium angulatum*, Lam. (*Cypricardia*), Lam. 2; Wood, Ind. Test. Suppl. pl. 2. f. 2.
Hab. Kino-O-Sima, in Madre-pores.
2. *Trapezium rostratum*, Lam. (*Cypricardia*), Lam. 3.
Chama rostrata, Wood.
Hab. Tsus-Sima, in oyster-shells.

Genus CORALLIOPHAGA, Blainv.

- Coralliophaga lithophagella*, Lam. (*Cardita*), Lam. 24; Deless. pl. 11. f. 11.
Hab. Kino-O-Sima, in Madre-pores.

XXXII.—Note on the Varieties of Dogs.

By Dr. J. E. GRAY.

THE variations of domestic dogs is a subject that has not been sufficiently studied, and one that is well worthy of attention.

Colonel Charles Hamilton Smith devoted the fifth volume of Jardine's 'Naturalist's Library,' to the natural history of dogs. He divides domestic dogs thus:—1, feral dogs;